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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/523,332 | 03/10/2000 | Akihiko Mochida | P/16-259 | 5458 |

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Ostrolenk Faber Gerb & Soffen LLP
1180 Avenue of the Americas
New York, NY 10036-8403

EXAMINER

WONG, ALLEN C

ART UNIT PAPER NUMBER

2621

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. _____

09/523,332

Applicant(s) _____

MOCHIDA ET AL.

Examiner _____

Allen Wong

Art Unit _____

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7,9-16,18,20-22,26-31,33,34,36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7,9-16,18,20-22,26-31,33,34,36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/17/06 have been fully read and considered but they are not persuasive.

The double patenting rejection is removed since applicant supplied a terminal disclaimer.

Regarding page 13 of applicant's remarks, applicant asserts that the prior art does not disclose the limitation "a timing signal generation circuit". The examiner respectfully disagrees. The timing generation circuit is disclosed in Kaiya, where element 33a of figure 4 is the same synchronization circuit as element 33a in fig.1 in that element 78 is the timing signal generation circuit that can generate a timing signal to generate the imaging apparatus, including imaging device, at element 4a of figure 1 to drive the imaging apparatus to obtain an optical image and produce an output at display 5a. The timing signal generation circuit is incorporated in the imaging apparatus 4a of fig.1, where element 33a, interactively connected with elements 31a and 32a, is the synchronization circuit, and that element 78 is the timing signal generation circuit. Thus, the limitation "a timing signal generation circuit" is disclosed.

Regarding page 14 of applicant's remarks, applicant states that the prior art does not disclose the limitation "phase adjustment circuit". The examiner respectfully disagrees. Kaiya's fig.1 discloses the common phase adjustment circuit 33a in that it is used to vary timing signals for driving the imaging device in imaging apparatus 4a.

Also, peruse Kaiya's column 6, lines 38-52. In fig.1, Kaiya discloses the element 33a is

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pre-adjusted to gear the drive signals of the video scope 2a by interactively adjusting the signal at element 31a before it reaches the imaging device or video scope 2a to obtain image data.

Kaiya does not specifically disclose the limitation operable to change the phase of the drive signal and input the drive signal of which the phase has been changed to the imaging device via the signal transmission line. However, Matumoto teaches the use of a phase-variable sampling pulse generator for adjusting or changing the phase of the drive signal and input the drive signal of which the phase has been changed to the imaging device via the signal transmission line, as shown in figures 1 and 3, where element 19, the phase-variable sampling pulse generator, in that the horizontal drive pulse, ΦH , or the reset pulse, ΦR , signals are inputted into element 31 of the phase-variable sampling pulse generator for processing the pulse width, then into element 32 for phase adjustment to be done over a transmission line.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Kaiya and Matumoto, as a whole, for effectively operating a correlated double sampling circuit or the like without changing the operation timing when it is used for electronic endoscopes having different lengths and minimizing circuitry requirements for saving costs, as disclosed in Matumoto's column 2, lines 39-47. Thus, the limitation "phase adjustment circuit" is disclosed.

Thus, the rejection is maintained.

Claim Rejections – 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7, 9-16, 18 and 20-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaiya (5,178,130) and Matumoto (5,434,615).

Regarding claim 1, Kaiya discloses an endoscopic imaging system comprising:
an endoscope having an insertion unit which is insertable into an object, the elongated insertion unit having an illumination optical system for illuminating an object and an objective optical system for forming an optical image of the illuminated object (fig.1, element 2a);

an imaging apparatus having an imaging device for picking up the optical image and outputting an image pick-up signal (fig.1, element 4a is the imaging apparatus where the imaging device or video scope 2a pickups the optical image and element 5a displays or outputs an image pickup signal);

a connector associated with the imaging apparatus (fig.1, note element 4a is connected with element 2a);

an elongate signal transmission line which connects the imaging apparatus and the connector for sending/receiving a signal to/from the imaging device (fig.1, note data is interactively connected from element 2a and 4a via a transmission line);

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a video processing unit to which the connector is detachably connected, the video processing unit including a signal processing circuit for generating a video signal from the image pick-up signal supplied via the signal transmission line and the connector (fig.1, element 32a is within element 4a);

a synchronizing signal generation circuit, incorporated in the video processing unit, for generating a synchronizing signal (fig.1, element 33a is within element 4a);

a timing signal generation circuit, incorporated in the connector, for generating a drive signal to drive the imaging device based on the synchronizing signal and inputting a timing signal to a sampling circuit for sampling the image pick-up signal (fig.4, element 33a is the same synchronization circuit as element 33a in fig.1, where element 78 is the timing signal generation circuit, and note in fig.1, element 31a is interconnected with elements 32a and 33a); and

a phase adjustment circuit (fig.1, element 33a is a phase adjustment circuit; see col.6, ln.38-52 and fig.9, note element 64a and 64b are the interchangeably switches that can provide the switching means for interchangeable linkage between the endoscopic devices).

Kaiya does not specifically disclose the limitation operable to change the phase of the drive signal and input the drive signal of which the phase has been changed to the imaging device via the signal transmission line. However, Matumoto teaches the use of a phase-variable sampling pulse generator for adjusting or changing the phase of the drive signal and input the drive signal of which the phase has been changed to the imaging device via the signal transmission line (see fig.1 and 3, note the disclosure of

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element 19, the phase-variable sampling pulse generator, in that the horizontal drive pulse, ΦH , or the reset pulse, ΦR , signals are inputted into element 31 of the phase-variable sampling pulse generator for processing the pulse width, then into element 32 for phase adjustment to be done over a transmission line). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Kaiya and Matumoto, as a whole, for effectively operating a correlated double sampling circuit or the like without changing the operation timing when it is used for electronic endoscopes having different lengths and minimizing circuitry requirements for saving costs (Matumoto col.2, ln.39-47).

Note claims 2-5, 7, 9-16, 18, 20-25 and 30-37 have similar corresponding elements.

Regarding claim 26, Kaiya discloses an endoscope system comprising:

first and second endoscopes having an insertion unit which is insertable onto an object, each insertion unit having an illumination optical system for illuminating the object and an objective optical system for forming an optical image of the illuminated object (fig.1, elements 2a and 2b are respective endoscopes);

first and second imaging apparatuses having first and second imaging devices for picking up first and second optical images produced by the first and second endoscopes, respectively, and outputting first and second image pickup signals, respectively (fig.1, elements 4a and 4b serve as respective imaging apparatuses);

first and second connectors associated with the first and second imaging apparatuses, respectively (fig.1, note element 4a is connected with element 2a as well as element 4b is connected with element 2b);

elongate signal transmission lines which connects the first and second imaging apparatuses and the first and second connectors, respectively, for sending/receiving signals to/from the first and second imaging devices, respectively (fig.1, note data is interactively connected from element 2a and 4a via a transmission line, and that elements 2b and 4b are also interactively connected via a transmission line);

a video processing unit to which the first and second connectors are selectively detachably connected, the video processing unit including a signal processing circuit for generating video signals from the image pick-up signals supplied via the signal transmission lines and the connectors (fig.1, elements 32a is within element 4a and element 32b is within element 4b);

a synchronizing signal generation circuit, incorporated in the video processing unit for generating a synchronizing signal (fig.1, element 33a is within element 4a);

timing signal generation circuits, incorporated in the first and second connectors, respectively, for generating drive signals to drive the first and second imaging devices based on the synchronizing signals and inputting timing signals to a sampling circuit for sampling the image pick-up signals (fig.4, element 33a is the same synchronization circuit as element 33a in fig.1, where element 78 is the timing signal generation circuit, and note in fig.1, element 31a is interconnected with elements 32a and 33a, similarly,

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note in fig.1, element 34 has a timing signal generation circuit that is interactively connected with elements 31b and 32b); and

phase adjustment circuit (fig.1, element 33a is a phase adjustment circuit; see col.6, ln.38-52 and fig.9, note element 64a and 64b are the interchangeably switches that can provide the switching means for interchangeable linkage between the endoscopic devices).

Kaiya does not specifically disclose the limitation operable to change the phase of the drive signal and input the drive signal of which the phase has been changed to the imaging device via the signal transmission line. However, Matumoto teaches the use of a phase-variable sampling pulse generator for adjusting or changing the phase of the drive signal and input the drive signal of which the phase has been changed to the imaging device via the signal transmission line (see fig.1 and 3, note the disclosure of element 19, the phase-variable sampling pulse generator, in that the horizontal drive pulse, ΦH , or the reset pulse, ΦR , signals are inputted into element 31 of the phase-variable sampling pulse generator for processing the pulse width, then into element 32 for phase adjustment to be done over a transmission line). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Kaiya and Matumoto, as a whole, for effectively operating a correlated double sampling circuit or the like without changing the operation timing when it is used for electronic endoscopes having different lengths and minimizing circuitry requirements for saving costs (Matumoto col.2, ln.39-47).

Note claims 27-29 have similar corresponding elements.

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Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

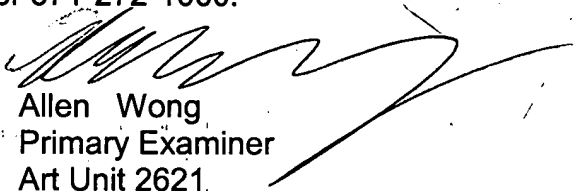
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Groody can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Allen Wong
Primary Examiner
Art Unit 2621

AW
10/24/06